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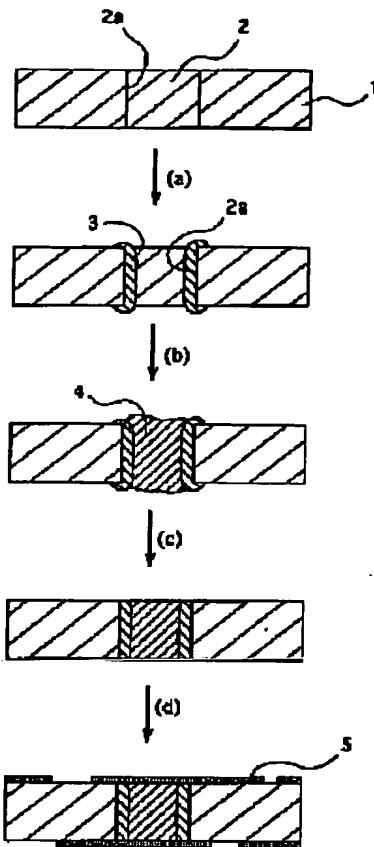
APPLICATION DATE : 14-02-95  
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TITLE : MANUFACTURE OF THROUGH HOLE  
 FILLED UP WITH CONDUCTOR



**ABSTRACT :** PURPOSE: To firmly stick a conductor to a ceramic substrate by filling up the through hole of the ceramic substrate with conductor paste having a low shrink characteristic after a glass layer is formed on the internal surface of the through hole by printing and baking glass paste and baking the conductor paste.

CONSTITUTION: A glass layer or conductor layer 3 containing a glass component is formed on the internal surface 2a of the through hole 1 of a ceramic substrate 1 by printing and baking paste to improve the adhesion of the internal surface 2a of the hole 2 and a conductor filling up the hole 2. Then a filled-up through hole is obtained by filling the hole 2 with the glass layer or conductor layer 3 containing the glass component on its internal surface 2a with conductor paste 4 having a low shrink property and baking the paste 4. The conductor used for filling up the hole 2 is prepared by mixing  $\geq 0.1\text{wt.\%}$  ruthenium oxide powder or rhodium powder in conductive powder composed mainly of silver or copper powder. When the paste 4 is used, the reliability of the connection between the wiring on the surface of the substrate 1 and through hole conductor can be improved.

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